

Video to HDMI Scaler Box

Operation Manual



(1). Introduction

Congratulations on your purchase of the Video Scaler CM-392.

Our professional Video Scaler products have been serving the industry for many years.

CM-392 is designed to convert Composite and S-Video to a variety of computer and HDTV resolutions. It handles video input from TV systems of NTSC, PAL TV standards. CM-392 has many great features to enhance video performance and is ideal for use in professional large screen presentation.

(2). Features

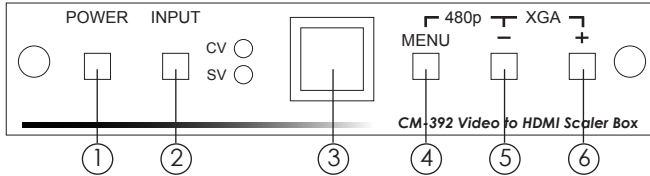
- * Motion adaptive 3D Y/C separation comb filter
(for composite video input)
- * 3D(frame Based) motion adaptive YNR/CNR noise reduction
(for Y/C video input)
- * Advanced 3D motion adaptive deinterlace
- * Automatic 2 : 2/3 : 2 film mode detection
- * Supports 50Hz to 60Hz frame rate conversion
- * Video quality improvement :
DCT1 (Digital chroma transient improve),
DLT1 (Digital luminance transient improve),
Black level extension
- * Average picture level (APL), Automatic contrast limiter (ACL)
function supported
- * OSD menu for picture quality adjustment.
- * Built in 8-bit DAC for RGB or YPbPr output
- * Front Panel and IR remote control.
- * Automatic NTSC/PAL video format detection
and switching.

(3) This package includes

1. Video Scaler Unit.
2. DC adaptor
3. VGA Cable-HD 15 to HD 15 x 1
4. HD-15 D-Sub to YPbPr 3-RCA Cable x 1
5. User Manual
6. Remote Control
7. Lithium battery

(4). Operation Controls and Functions

Front Panel



1. Power button and LED indicator:

Press the button once to power on the unit, press again to power off. When the unit is powered on, one of the input LEDs will illuminate depending on your last selection of input source before power off. The factory default setting for the input is CV (composite video). The green LED illuminates when composite video is selected. The Yellow LED illuminates when S-Video is selected.

2. Input select button:

Press the button to select your desired input source between composite video and S-Video.

3. IR Sensor: Infrad remote control sensor.

4. Menu/Enter: This button serves two purposes.

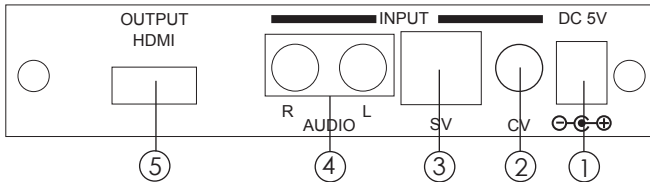
- Press the button to bring up OSD main control menu as shown in the "OSD Operation".
- To act as a "enter" key to enter sub menu of you selected item or adjust value of the selected item.

5/6. +/- button: Press the button to move up or down the tick "V" to your desired parameter. Or after a parameter is selected by pressing MENU/ENTER button, press the button to alter the value of your selected parameter.

Note:

Once out of range, you can press "MENU" and "-" buttons together to go back to HD factory default setting 480p. Or press "+" and "-" button together to go back to PC factory default setting XGA.

Rear Panel



1. DC power jack: 5V 2A DC power input.

2. Composite Video: Use a Composite video cable to connect the composite video output of the source equipment to this composite video (CV) input of the scaler.

3. S-Video: Use a S-Video cable to connect the S-Video output of the source video equipment to this "S-Video" input on the back of the video scaler. S-Video provides improved performance over composite video and is recommended over composite.

4. Audio input L/R:

5. HDMI output: The CM-392 can output a variety of PC and HDTV progressive resolutions, in both digital and analog format through HDMI connector.

Digital output: Connect CM-392's digital HDMI output to the HDMI input of your TV/display unit using a HDMI to HDMI cable.

Note:

1080i resolution can be displayed on the most of the monitors but may not work with some HDTVs due to 1080i is 960x 540p @37MHz which is not true HD resolution.

(5). Output Format

The format of digital HDMI output is digital RGB for all resolutions

PC (RGB)			HDTV (RGB)		
VGA -RGB	640X480	60 Hz	1080i -RGB	960x540p	60 Hz
SVGA -RGB	800X600	60 Hz	720p -RGB	1280X720	60 Hz
XGA -RGB	1024X768	60 Hz	576p -RGB	720X576	50 Hz
WXGA -RGB	1280X768	60 Hz	480p -RGB	720X480	60 Hz
SXGA -RGB	1280X1024	60 Hz			

(6). OSD Operation

After power on the unit , press the menu button to bring up the main menu page as below:

- Main Menu
- √ Picture adj.
- Output Setup
- Exit

Use +,- button to move "V" to your desired parameter, then press MENU/ENTER to enter into sub-menu of your selected parameter.

Picture Adjust

When Picture Adjust is selected a sub menu as below comes up.

	Default	Range
Bright	16	1-31
√ Contrast	16	1-31
Color	16	1-31
Tint	16	1-31
Sharp	05	1-19
Default	OK	
Exit		

USE +,- to move the tick (V) to your desired adjust item, Press the Menu/Enter to confirm your selection.

At this point, the selected parameter will turn red, and you can use +,- to increase or decrease the value of the parameter.

When adjustment is complete, Press "Menu" to leave the parameter. Move the tick "V" to "Exit", then press menu/enter to exit.

Output Setup

When Output Set up is selected a submenu as below appears:

Output Setup
√ **Timing XGA**
Exit

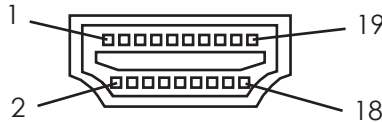
Press the " MENU/ENTER" button to enter into output timing select mode.
Press +,- to toggle through a variety of output resolutions as below.
Once your desired resolution is selected. press the menu/enter to enter the resolution.

	Resolution	Vertical rate
VGA	640x480	60Hz
SVGA	800x600	60Hz
XGA	1024x768	60Hz
WXGA	1280x768	60Hz
SXGA	1280x1024	60Hz
480p	720x480	60Hz
576p	720x576	50Hz
720p	1280x720	60Hz
1080i	960x540p	60Hz

**Note: 1. All output resolutions except 576p have 60Hz vertical rate,
The 576p resolution has 50Hz vertical rate.**

(7). HDMI Pin Configuration

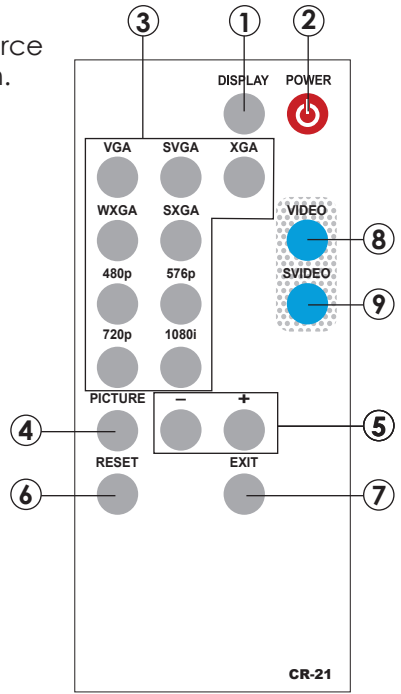
HDMI Connector Pin Assignment



Pin#	Function Assignment	Pin#	Function Assignment
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2-	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	CEC	14	Reserved (N.C. on device)
15	SCL	16	SDA
17	DDC/CEC Ground	18	+5V Power
19	Hot Plug Detect		

(8). Remote Control

1. **Display:** Press the button to display input source and output resolution on the screen.
2. **Power:** Power ON/OFF button.
3. **VGA~1080i:** Press to select your desired output resolution.
4. **Picture:** Press the button to enter picture adjust submenu. Use +/- button to move cursor (V) up/down to your desired parameter, press "Picture" again to confirm.
5. **+/-:** Press to move up/down the cursor (V) to your desired parameter, or press to increase/decrease the setting value.
6. **Reset:** Press to reset all settings back to factory default value.
7. **Exit:** To exit OSD.
8. **Video:** Press the button to select composite video input.
9. **SVideo:** Press the button to select SVideo input.



(9). Specifications

Input signal levels	Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm Color@ 0.7 Vp-p, 75 ohm
Output Format	Digital RGB
Output Connector	HDMI type a female
Output Signal	Bit stream
Weight	400 grams
Dimensions	125(W) x 123(D) x 30(H) mm

Output Signal Specifications

PC Resolutions	Vert Rate	Scan Type	Format
			Digital out Pin 1~19
VGA 640 X 480	60 Hz	Progressive	RGB
SVGA 800 X600	60 Hz	progressive	RGB
XGA 1024X768	60 Hz	Progressive	RGB
WXGA 1280X768	60 Hz	Progressive	RGB
SXGA 1280X1024	60 Hz	Progressive	RGB
HDTV Resolutions	Vert Rate	Scan Type	
480p 720 x 480	60 Hz	Progressive	RGB
576p 720 x 576	50 Hz	Progressive	RGB
720p 1280 x 720	60 Hz	Progressive	RGB
1080i 960x540p	60 Hz	Progressive	RGB

(10). Installation

Digital Out: Connect to your TV through digital HDMI interface

